

In the Claims:

All pending claims are reproduced below, including those that remain unchanged.

1. (Original): A method, comprising:

receiving a first schema database comprising information having at least one of a spatial component and a remaining component;

performing data analysis thereon to determine a geospatial pattern based upon the spatial component;

storing the geospatial pattern as meta data;

aggregating data of the database into one or more groupings in accordance with the meta data; and

displaying one or more indicators associated with the one or more groupings on an n-dimensional presentation.

2. (Original): The method of claim 1, further comprising:

analyzing at least a portion of at least one dataset included by the database to determine at least one relationship among the groupings; and

displaying one or more indicators to denote the relationship(s) among the one or more groupings.

3. (Original): The method of claim 1, further comprising:

forming a virtual schema meta model based upon at least a portion of at least one dataset included by the database; and

wherein the aggregating data of the database comprises aggregating data of the database into one or more groupings in accordance with the virtual schema.

4. (Original): The method of claim 1, further comprising:
receiving an input indicating a criterion;
storing the input as meta data; and
aggregating data of the database into new groupings in accordance with the meta data.

5. (Original): The method of claim 4, wherein the input comprises at least one of:
an input from a user,
a defined area,
a derivation based upon one or more objects on the n-dimensional presentation,
a machine defined meta data; and
a result of a computation.

6. (Original): The method of claim 5, wherein:
the defined area comprises at least one of:
a zip code,
an area code,
a census tract,

a Metropolitan Statistical Area (MSA),
a nation state,
a state,
a county,
a municipality,
a plat;
a voting district;
a precinct;
a latitude, and
a longitude.

7. (Original): The method of claim 5, wherein:
the derivation based upon one or more objects on the n-dimensional
presentation comprises at least one of:

a sales territory,
a 5-mile radius from a school,
a 10 feet right of way along a street; and
a region within a specified distance of a power line.

8. (Original): The method of claim 5, wherein:
the result of a computation comprises:
computing an animal home range, the home range providing a region
defined by activities of a target;

defining within the region a first ellipse; and
defining within the region a second ellipse approximately orthogonal to the first ellipse; wherein
an area defined by intersection of the first ellipse and the second ellipse provides a greatest probability of finding the target.

9. (Original): The method of claim 8, wherein:
the target comprises at least one of:
a suspect, who perpetrated criminal acts defined by the data,
a customer, who completed transactions in shops defined by the data,
a source of biological material, which caused infections in persons defined by the data,
a source of pollution.

10. (Original): The method of claim 1, wherein meta data is stored according to a hierarchy.

11. (Original): The method of claim 1, further comprising:
creating a data cube report for at least a portion of a dataset in the data warehouse;
reducing the data cube report by aggregation to at least one tuple, comprising a GIS-object and a data point;

storing the GIS-object as metadata; and
aggregating like tuples for display on the n-dimensional presentation.

12. (Original): The method of claim 1, wherein data analysis further comprises at least one of

data mining;
spatial relationship data analysis;
clustering;
statistical analysis; and
regression analysis.

13. (Original): The method of claim 1, wherein:
aggregating the groupings based upon the spatial-object meta data comprises:
checking whether data points fall within a common region, and
if so, aggregating data represented by the data points.

14. (Original): The method of claim 2, further comprising:
receiving a second input indicating one or more redefined regions;
storing the second input as a redefined spatial-object meta data; and
aggregating into new groupings based upon the spatial-object meta data.

15. (Original): The method of claim 3, further comprising:
redefining the virtual schema based upon the spatial-object meta data,
comprising:
receiving a second input indicating a criteria;
aggregating data of the database into one or more new groupings in
accordance with the redefined virtual schema and the second input indicating the
criteria; and
displaying one or more indicators associated with the one or more new
groupings on an n-dimensional presentation.

16. (Original): The method of claim 3, further comprising:
receiving a second input indicating a relationship between a first data point and a
second data point on the n-dimensional presentation;
reflecting the relationship in the virtual schema;
aggregating data of the database into one or more new groupings in accordance
with the virtual schema; and
displaying one or more indicators associated with the one or more new groupings
on an n-dimensional presentation.

17. (Original): The method of claim 1, further comprising:
receiving a second database;
forming a virtual schema including at least a portion of a dataset included within
at least one of the first database and the second database;

receiving a first input indicating a criteria;
aggregating data of at least one of the first database and the second database into one or more groupings in accordance with the virtual schema and the first input indicating the criteria; and
displaying one or more indicators associated with the one or more groupings on an n-dimensional presentation.

18. (Original): A method, comprising:
receiving a first schema database comprising information having at least one of a spatial component and a remaining component;
performing data analysis thereon to determine a geospatial pattern based upon the spatial component;
storing the geospatial pattern as meta data;
forming a virtual schema including at least a portion of a dataset included within the first database;
aggregating data of the database into one or more groupings in accordance with the virtual schema and the meta data; and
displaying one or more indicators associated with the one or more groupings on an n-dimensional presentation.

19. (Original): A system, comprising:

a schema builder that generates one or more virtual schemas including at least a portion of data input from a source, and generates mapping rules controlling data movement into a data warehouse;

a metadata repository operative to hold the virtual schemas and mapping rules;

a region checker;

a data analyzer; and

an n-dimensional presentation;

wherein the data analyzer is operative to create at least one mapping rule based upon analysis of information in the data warehouse.

20. (Original): The system of claim 19 wherein:

the source comprises at least one of a plurality of on line transaction processing (OLTP) databases.

21. (Original): An apparatus, comprising:

means for generating one or more virtual schemas including at least a portion of data input from a source;

means for performing data analysis on the data to determine a geospatial pattern based upon the spatial component;

means for storing the geospatial pattern as meta data;

means for generating one or more analysis functions based upon the virtual schemas and data input; and

means for displaying an aggregated grouping of data in an n-dimensional presentation based upon the virtual schema and the meta data.

22. (Original): A computer program product, comprising:

- code for receiving a first schema database comprising information having at least one of a spatial component and a remaining component;
- code for performing data analysis thereon to determine a geospatial pattern based upon the spatial component;
- code for storing the geospatial pattern as meta data;
- code for aggregating data of the database into one or more groupings in accordance with the meta data;
- code for displaying one or more indicators associated with the one or more groupings on an n-dimensional presentation; and
- a computer readable storage medium for holding the codes.

23. (Original): A customer data analysis report produced according to the method of claim 1.